

DEPARTMENT OF ENVIRONMENTAL PROTECTION  
COMPLIANCE AND ENFORCEMENT  
ANNUAL REPORT

FISCAL YEAR 2004

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## **I. MESSAGE FROM THE COMMISSIONER**

It is my pleasure to share with you the Department of Environmental Protection's (DEP) FY2004 Compliance and Enforcement (C/E) Performance Report. The report highlights DEP's enforcement activities, its impact on compliance among the regulated community, and new initiatives to achieve improved environmental results. As part of this effort, DEP launched several new initiatives to target areas with high potential for environmental harm and human health risk.

While not the only measure of the effectiveness of DEP's enforcement efforts, the Department's FY04 C/E outputs are impressive. DEP conducted close to 3300 enforcement actions and assessed over \$12 million in penalties and payments for environmentally beneficial projects. The report also details the Department's continued movement toward expanding compliance rate analysis and establishing environmental outcome performance goals as a supplement to simply measuring enforcement actions taken.

In FY 04, the Department strategically targeted three sectors to achieve improved compliance and solve specific environmental problems to maximize the effectiveness and efficiency of its C/E investment. Each of these initiatives demonstrated the increased role that information, enhanced technology and quick responsiveness will play in the Department's future efforts. The Wetlands Enforcement Initiative discovered over 25 acres of illegal filling and resulted in more than \$683,000 in assessed penalties as well as two referrals to the Attorney General's Office for civil prosecution. The Asbestos Enforcement Sweep resulted in 77 higher-level enforcement cases and \$2.1 million in administrative penalties against contractors who illegally removed and disposed of hazardous asbestos waste. The Urban Area Compliance Assurance strategy deployed a range of enforcement and assistance tools and forced cleanup action at 13 long dormant urban waste sites with recalcitrant property owners, improving environmental quality and boosting economic development in cities. Looking forward to FY05, DEP will expand these types of initiatives to other areas.

This report is available on our Web site at: <http://www.mass.gov/dep/enf/04enforce.htm> DEP will continue to expand the public availability of performance information as a means to increase understanding and build partnerships to protect and improve the Commonwealth's environment.

Sincerely,



Robert W. Golledge, Jr.  
Commissioner

November 23, 2004

## II. EXECUTIVE SUMMARY

The Department faced the challenge of making resource allocation decisions with 24% less staff than it had in fiscal year 2002. Strategic planning and targeting available resources became critically important, and enforcement was reaffirmed as essential to fulfilling the agency's mission. With less staff this fiscal year than at any time since 1989, DEP conducted record numbers of higher-level enforcement actions, and assessed more in civil administrative penalties than it has in its history.

Highlights this year include increases over FY03 outputs of:

- 54% more higher level enforcement;
- 44% more referrals to the Attorney General's office, U.S. EPA or the Board of Registration of Licensed Site Professionals; and
- 49% more civil administrative penalty dollars assessed.

Focused initiatives in particular sectors deemed to be high priorities also proved highly successful. Using new technology to analyze aerial photography and changes in the Commonwealth's wetlands areas over time, the Department investigated illegal wetland alterations and brought cases that will restore 25 acres of wetlands and assessed \$683,000 in administrative penalties. Illegal asbestos removal and disposal was targeted in schools and other sectors resulting in 77 cases and \$2,177,425 in penalties against owners and contractors. The Bureau of Waste Site Cleanup (BWSC) prompted renewed cleanup efforts at 13 sites that had long been neglected in urban areas using enforcement. New sectors and geographic areas will be targeted next year.

Developing more meaningful measures of the effectiveness of the Department's programs and the state of our environment continues to be a challenge. The Department is reporting new compliance measures this year, which will be used in targeting, designing compliance and enforcement initiatives, and as baseline indicators for setting future goals. These measures include:

- Rates of compliance with water withdrawal permits and registrations;
- Rates of compliance with surface water discharge permit requirements;
- Rates of compliance with risk reduction submittal requirements for the highest risk sites in the waste site cleanup program;
- The rates of waste sites reaching final cleanup levels and attaining a condition of no significant risk within the regulatory time period of 6 years; and
- Rates of compliance for the certification and environmental performance indicators for printers in the Environmental Results Program (ERP).

The continuing effort to focus on the state of compliance, and not merely the agency's ability to identify and penalize violators will allow a more thoughtful analysis of environmental conditions in the Commonwealth. This effort will enable the Department to develop and implement more effective strategies to protect and improve public health and the environment.

Looking forward to FY05, the Department will continue to strategically target its enforcement resources in order to maximize both compliance and environmental benefits. The Department

expects to continue or expand its initiatives to prevent illegal wetlands filling, identify and register high-risk public water systems, and prevent improper asbestos abatement projects. The Department will also continue its work to ensure quality cleanups of oil and hazardous waste sites as well as target responsible parties not fulfilling their cleanup obligations.

The Department will also continue to increase its ability to receive submissions electronically, review them for compliance, integrate the data submitted into the agency's databases, and have the ability to retrieve such data for strategic targeting and planning, as well as to simplify document generation functions. Improving our information technology systems supports smarter enforcement and facilitates communication with our regulated entities and the public.

Finally, the Department has, and will continue to, report the traditional measures of enforcement performance in the tabulations of compliance inspections performed, enforcement actions conducted and penalty amounts assessed. These measures are described in greater detail below. There are, however, limitations in relying solely on these traditional counts. "Output accounting" offers limited insight into the unique contribution of enforcement as part of an integrated problem solving strategy targeted at a particular environmental concern. The number of actions taken by DEP does not effectively capture the link between those actions and compliance-related behavioral changes in the regulated community, and fails to measure quantifiable environmental benefits of any strategy.

### III. OUTPUTS

Despite these limitations, the Department will continue to provide these output accounting measures because they are useful in monitoring agency efforts over time, enable comparisons between actual and planned results and provides a quantifiable baseline in tracking consistency in program, policy implementation and accountability. The key performance outputs DEP reports are:

1. Number of compliance inspections conducted.
2. Number of Lower Level Enforcement (LLE) actions taken;
3. Number of Higher Level Enforcement (HLE) actions taken;
4. Monetary amount of administrative and judicial penalties assessed; and
5. Monetary value of environmental alternatives to penalties.

**Statewide Enforcement Outputs –5 year trend**

Action	2000	2001	2002	2003	2004	5 Yr. Avg.
<b>Compliance Inspections</b>	7073	7626	7066	5879	<b>6283</b>	6785
<b>LLE</b>	2649	2952	2472	2506	<b>2365</b>	2589

HLE-Administrative Actions	550	466	612	573	<b>675</b>	617
HLE-Administrative Actions ERP ONLY					<b>208<sup>1</sup></b>	208
HLE-Referrals	43	39	48	27	<b>39</b>	39

Chart 1

**Inspections.** Despite continued staff reductions Department-wide, from FY03 to FY04, compliance inspections increased by 6.8%, an increase of 404 inspections. This 6.8% increase was achieved during a year when DEP lost 9.7% staff agency-wide. Staff losses from FY02 to FY04 totaled 24% (See Figure 1 below). Inspections may be announced or unannounced, planned as part of a standard compliance assurance sweep, targeted by sector, or triggered by prior enforcement actions, audits or complaints. The compliance inspections reported above do not include follow up inspections for tracking compliance milestones. The increase of 404 inspections performed this fiscal year is the result of redirecting staff resources from permitting and outreach activities such as compliance assistance directly to enforcement activities.

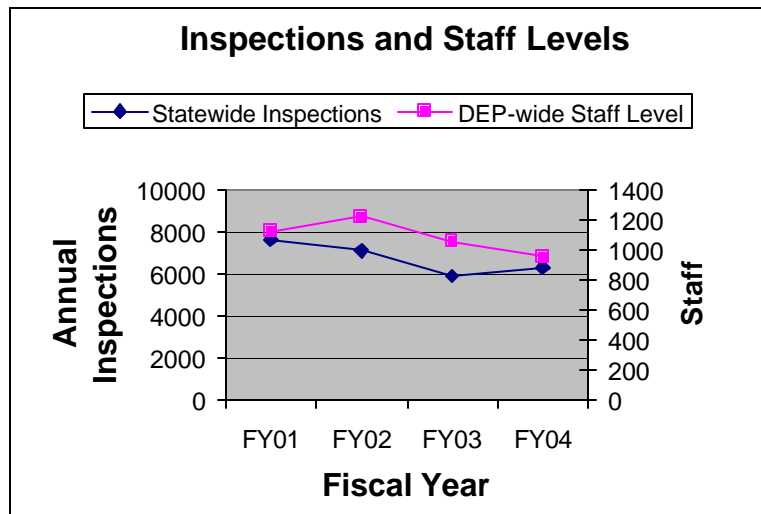


Figure 1

**Lower Level Enforcement.** The number of Notices of Noncompliance (NONs) (Lower Level Enforcement or LLE) issued in FY04 decreased by 5.6% from FY03, a difference of 141 documents. This reduction is the consequence of directing staff time to developing higher-level enforcement cases. NONs generally provide notice to a violator of noncompliance, and establish a reasonable deadline for correction before the Department escalates its enforcement response.

**Higher Level Enforcement.** Higher Level Enforcement (or HLE) administrative actions increased by 54% in FY04, an increase of 310 HLE cases brought (208 of which specifically addressed ERP) and far exceeded DEP expectations of performance. Compared to the 5-year average of HLE actions brought, this year's outputs exceeded that number by 266 additional cases or 43%. Higher Level Enforcement includes a variety of enforcement responses including:

<sup>1</sup> In FY 04, BWP developed and implemented a standardized settlement strategy to address violations for failure to certify as well as to drive all outstanding non-certifiers into the system to create an obligation to pay compliance fees into the future.

administrative orders, penalty assessments, amendments to prior orders, demands for stipulated or suspended penalties, and permit and licensure sanctions such as suspensions or revocations.

The HLE category also includes referrals to the Board of Registration of Licensed Site Professionals, to the U.S. Environmental Protection Agency (EPA) and the office of the Attorney General for civil or criminal prosecution. HLE referrals increased by 44% this fiscal year, an increase of 12 cases over the cases referred in FY03.

Increased HLE outputs were achieved with less staff by redirecting personnel toward compliance and enforcement activity, and placing a high priority on timely and appropriate enforcement (see Figure 2 below).

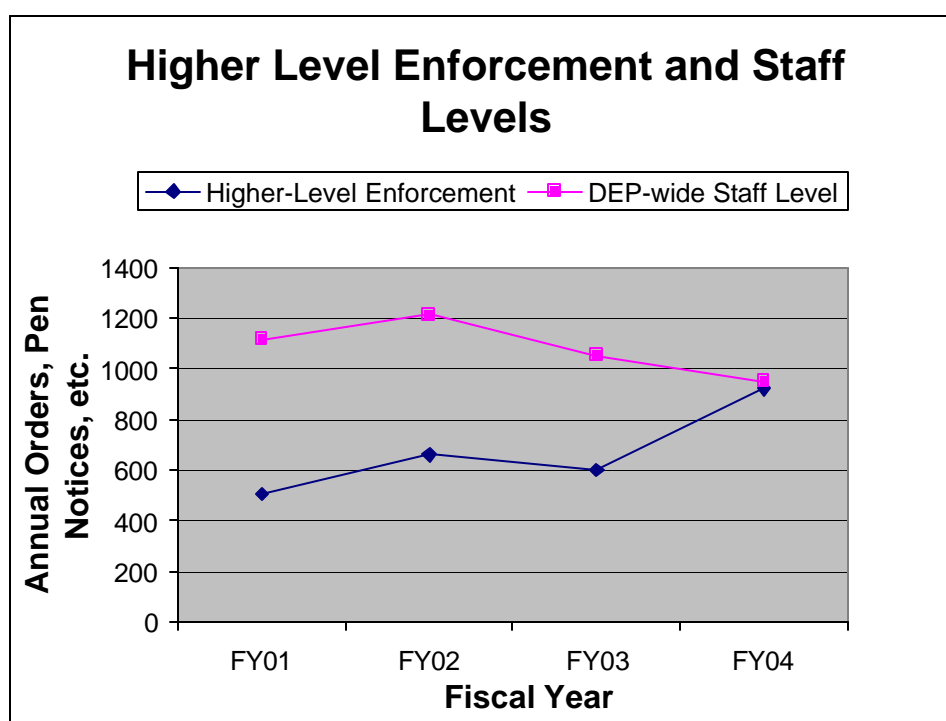


Figure 2

**Outputs by Bureau** As shown in chart 2, across the three Bureaus the general five-year trend toward higher output levels was sustained, although there is variability in emphasis between lower and higher level enforcement tools. Variations result from balancing many factors including the relative risk and environmental impact of the facility/site, environmental justice goals, enforcement history, citizens' complaints, regulatory timeframes and the size of the regulated universe that is the target of a strategic program initiative.

The fact that inspection levels were higher (6.8 % higher statewide) despite a reduction in DEP staff is indicative of the increased emphasis being placed on enforcement activities. The Bureau of Waste Prevention (BWP) and the Bureau of Resource Protection (BRP) both experienced (6-16%) increases in inspections. HLE cases brought increased in each bureau: 54% in BWP, 10%

in BRP, and 27% in the Bureau of Waste Site Cleanup (BWSC). As the transition continues toward greater reliance on compliance certifications, electronic filing capability increases and evaluation of compliance reports becomes automated, the compliance evaluations will become easier to complete and responses easier to generate.

<b>Statewide Enforcement Outputs - by Bureau with 5 year trend</b>						
<b>Bureau of Waste Prevention</b>	<b>2000</b>	<b>2001</b>	<b>2002</b>	<b>2003</b>	<b>2004</b>	<b>5 Yr Avg.</b>
Compliance Inspections	2576	2459	2763	2073	<b>2207</b>	2416
LLE	862	563	696	687	<b>669</b>	695
HLE Administrative	171	157	202	195	<b>216</b>	188
HLE Administrative ERP ONLY					<b>208</b>	208
Referrals†‡	20	7	7	11	<b>22</b>	13
<b>Bureau of Waste Site Cleanup</b>						
Compliance Inspections	1277	1688	1387	1563	<b>1400</b>	1463
LLE	830	1249	1004	1113	<b>1023</b>	1044
HLE Administrative	137	135	200	150	<b>207</b>	166
Referrals†‡	1	15	17	9	<b>10</b>	10
<b>Bureau of Resource Protection</b>						
Compliance Inspections	2688	3015	2387	1949	<b>2329</b>	2474
LLE	957	1140	772	706	<b>673</b>	850
HLE Administrative	220	174	210	227	<b>247</b>	216
Referrals†‡	6	5	1	2	<b>7</b>	4
<b>Environmental Strike Force</b>						
Compliance Inspections	492	434	497	277	<b>288</b>	398
Referrals†‡	16	12	23	6	<b>0*</b>	11

\*In FY04, Strike Force referral cases were attributed to the primary Bureaus for the case.

†‡ Referrals to the Board of Registration of Licensed Site Professionals, U.S. EPA and the office of the Attorney General for civil or criminal prosecution.

## CHART 2

**Penalties and Fines** In FY04, administrative penalties assessed totaled a record \$4.2 million dollars, an increase of 49% over the amount assessed in FY03.

**Penalties and Fines Assessed with 5 year trend**

	2000	2001	2002	2003	2004	5 year Avg.
DEP Total \$ for Administrative Penalties	\$1,613,430	\$2,671,011	\$3,432,743	\$2,819,046	\$4,151,475	\$2,937,541
DEP Total \$ for Administrative Penalties ERP ONLY					\$54,125	\$54,125
AG Total \$ for Civil and Criminal Penalties	\$4,064,000	\$786,000	\$2,608,925	\$893,125	\$7,303,250	\$3,131,060
Total \$ Penalties (DEP + AG)	\$5,677,430	\$3,457,011	\$6,041,668	\$3,712,171	\$11,508,850	\$6,079,426
Environmental Alternatives to Penalties	\$534,225	\$780,207	\$625,610	\$5,286,938	\$1,149,363	\$1,675,269
Total Penalty and Environmental Alternatives	\$6,211,655	\$4,237,218	\$6,667,278	\$8,999,109	\$12,658,213	\$7,754,695

**CHART 3**

The assessment of monetary penalties creates a deterrent effect by exacting a price for non-compliance beyond the expenditures required to return to compliance and remediate any damage caused. In appropriate cases, a penalty reflects the economic benefit the violator obtained by avoiding or deferring compliance related costs or investments. Penalties also send a strong message to the regulated community that ultimately, compliance avoidance will not give you an economic advantage.

**Oil Spill Legislation.** In FY05, the Department will implement the increased penalties authorized by Chapter 251 of the Acts of 2004, *“An Act Relative to Oil Spill Prevention and Response in Buzzards Bay and Other Harbors and Bays of the Commonwealth”* (the “Oil Spill Act” or “Act”), which was signed by Governor Romney on August 4, 2004. The Act increased DEP’s administrative penalty authority for false statements made in documents submitted to DEP, repeat violations that are a pattern of noncompliance as well as a provision that allows the Department to set an administrative penalty in excess of statutory limits. The Act also imposes new civil and criminal penalties applicable to cases prosecuted with the Attorney General in court.

**Civil Fines.** The AG civil penalties were dominated by a \$6.5 million penalty, the largest environmental fine ever imposed in Massachusetts. The \$7.3 million total of judicially assessed fines is also the largest historical annual total.

**Penalty Distribution.** The 49% increase in penalty dollars assessed appears to be primarily due to increased numbers of penalties issued as the average value decreased slightly from FY03.



Distribution of penalty amounts show the majority (65%) of assessments are for \$5,000 or less. The average administrative penalty, whether unilateral or consented to, was \$7,100. Negotiated penalties (ACOPs) were lower on average (\$5,400) than the average unilateral penalty (PAN) of \$11,900. DEP's regular use of small penalty assessments in certain sectors has increased this fiscal year with the issuance of 208 ACOPs and PANs in the ERP sector that assessed small penalties totaling \$54,125 bringing the average penalty assessment value down.

**Environmental Alternative to Penalties** One of the important benefits from enforcement are the commitments made that cannot otherwise be required but can be agreed upon in consent orders. These commitments can take the form of Supplemental Environmental Projects (SEP) or institution of Environmental Management Systems (EMS) that can produce broad and permanent environmental results without sacrificing the deterrence value of making non-compliance more costly than compliance. The Environmental Alternative to Penalties values in Chart 3 are estimated values of the costs for performing SEPs or EMSs, as are the values in Chart 4. FY04 saw a reduction in the estimated value of SEP and EMS commitments, from \$5.3 million to \$1.1 million dollars. FY 03 values were extraordinarily high, however, because of a single \$5 million SEP for fisheries monitoring and habitat restoration. Additional information on the environmental benefits obtained in FY04 through these commitments are described later in this report and can also be found at DEP's website<sup>2</sup>.

#### **TOTAL ESTIMATED ADMINISTRATIVE SEP AND EMS VALUES**

REGION	# of SEPs	ESTIMATED SEP \$ VALUE	# of EMSs	ESTIMATED EMS \$ VALUE	TOTAL OTHER ENV. \$ VALUE
CERO	11	\$235,613	1	\$5,750	\$241,363
NERO	4	\$499,000	1	\$35,000	\$534,000
SERO	9	\$145,000	0	\$0	\$145,000
WERO	7	\$205,000	4	\$24,000	\$229,000
BOSTON	0	\$0	0	\$0	\$0
TOTAL	31	\$1,084,613	7	\$64,750	\$1,149,363

**CHART 4**

#### **SUPPLEMENTAL ENVIRONMENTAL PROJECTS**

DEP incorporated 31 Supplemental Environmental Projects (SEPs) into settlement agreements of enforcement matters in fiscal year 2004 with a total estimated value of \$1,149,363. Highlights of projects from those settlements include:

- Contribution to a watershed coalition for additional sampling, new monitoring equipment, and upgraded lab facilities as well as volunteer training,
- Disposal of fill and ash material from a marsh restoration project,
- Allocation of disposal capacity in a municipal landfill for a brownfields development project in an Environmental Justice (EJ) area,
- Engineering work and groundwater sampling for delineation of an area of contribution to municipal water supply wells;
- Proper removal and disposal of asbestos from property in Holyoke and an inner city high school in Lowell;

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<sup>2</sup> <http://www.mass.gov/dep/enf/enfpubs.htm>

- Research into the use of landfill cover materials, and the generation of odors from gypsum products found in construction and demolition debris; and
- The 8 SEPs and EMSs done by BWP will reduce pollution by over 56 tons of VOCs and 35 tons of other hazardous air pollutants.

In addition, 3 civil judgments included commitments to perform SEPs. These projects will provide:

- \$75,000 to research lead use and reduction in the wire and cable industry;
- Approximately \$600,000 for research in using biofilters as emission control devices for hazardous air pollutants, volatile organic compounds and other air contaminants; and
- Computerized maps of a municipal stormwater system including catchbasins, manholes and outlets.

## **ENVIRONMENTAL MANAGEMENT SYSTEMS**

Environmental Management Systems (EMSs) are ongoing management procedures for systematically analyzing, controlling and reducing environmental impacts of activities, products and services. The Department incorporated commitments to institute EMSs in 7 Consent Orders in FY04. In addition, 2 state agencies agreed to develop formal EMSs for their facilities<sup>3</sup>.

## **MUNICIPAL STEWARDSHIP GRANTS**

The Department also supported the development of EMSs through its Municipal Environmental Stewardship Grants initiated in 2002 and funded by the US EPA. DEP awarded grants of approximately \$220,000 to nine municipalities and 2 regional organizations for projects that will promote sustainable environmental stewardship through the use of an EMS or an environmental management plan that demonstrates enhanced performance through performance measurement. All of the grant initiatives have made significant progress in spite of deep reductions in municipal resources, and the final reports will be submitted in the summer of 2005. Examples of municipal EMS stewardship include the Town of Natick's EMS for its water treatment facility (approaching certification to the international ISO 14001 standard) and the pesticide / herbicide / fertilizer management program developed by the recreation and water departments of the Town of Westford for land near municipally owned public water supply sources.

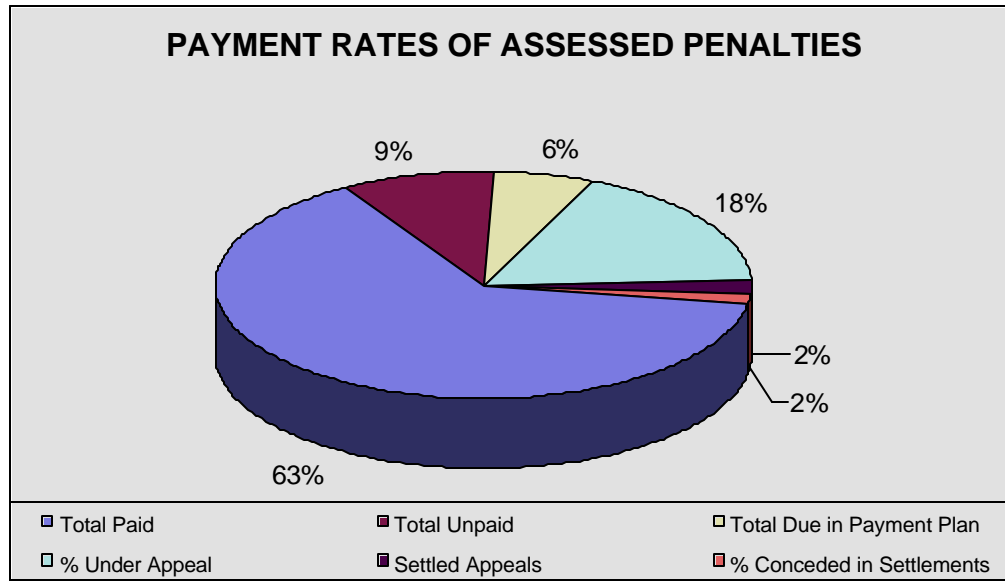
## **PENALTY APPEAL AND COLLECTION RATES**

Of the 153 unilateral penalties issued in FY04, 111 or 73% became final without the recipient requesting an appeal, while 42 penalties (27%) were subject to requests for administrative hearings. Of those appealed penalties, 16 (38%) were closed by the end of the year, and 26 (62%) were still pending.

The Department is reporting its collection results for penalties assessed this fiscal year. Figure 3 below illustrates fully paid assessments from FY04 of 63%, while 24% of the amounts assessed are subject to ongoing administrative appeals, or subject to ongoing payment plans. Penalties that are final and unpaid constitute just 9% of the total amounts assessed in FY04 and were referred to debt collection.

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<sup>3</sup> The Massachusetts Bay Transit Authority and the Department of Fish and Game.



**Figure 3**

### **URBAN ENVIRONMENTAL JUSTICE (EJ) GOALS**

In 2002, the Executive Office of Environmental Affairs (EOEA) issued a policy implementing the principles of EJ in all EOEA programs, including enforcement of environmental laws. The Department was charged with prioritizing EJ areas when selecting sectors and facilities for inspection and prosecution of noncompliance. To assess the agency's success in meeting this policy directive, DEP reports from sectors in the Bureau of Waste Prevention on the number of regulated facilities located in EJ areas and DEP's inspection and enforcement rates in those areas. The distribution of inspections and enforcement within these areas of heightened concern are generally proportional to their distribution within the Commonwealth. In 2004, it is estimated that in 4 major sectors, 28% of the regulated facilities are in EJ areas and 32% of the FY04 inspections done for those sectors were of EJ located facilities. 34% of all the follow up enforcement done after inspections was for facilities in EJ areas. These numbers reflect the conscious targeting by BWP of facilities in EJ areas, such as vapor recovery systems at gas stations. Previously unidentified BWP facilities (those "outside the system") also received a healthy ratio of enforcement attention: 36% of all enforcement issued by BWP was directed to "outside the system" facilities in EJ areas, and 50% of all HLE issued went to this category.

### Profile of BWP Inspections and Enforcement in Environmental Justice Areas -2004

Sector	% Facilities in EJ Areas	# and % of inspections in EJ Areas	% of HLE done in EJ areas	% of ALL enforcement done in EJ areas
Major facilities	32	32 (30%)	0%	30%
Solid Waste	15	74 (28%)	42%	19%
ERP – all sectors	32	10 (29%)	0%	14%
Stage II	28	28 (47%)	50%	46%
Average-4 major sectors	28%	144 (32%)	37%	30%

## IV. MEASURING ENVIRONMENTAL OUTCOMES

**A. TARGETED ENFORCEMENT INITIATIVES.** In FY 04, the Department strategically targeted three sectors to achieve improved compliance and solve specific environmental problems to maximize the effectiveness and efficiency of its C/E investment. The sectors targeted were: illegal wetlands destruction, illegal removal, handling and disposal of hazardous asbestos waste, and enforcement against owners of contaminated sites across the state located in urban areas who were not fulfilling their cleanup obligations. These initiatives, in particular the wetlands initiative, are good examples of the Department's increased use of remote sensing, aerial surveillance, digital mapping and other innovative non-compliance detection strategies and equipment to focus its C/E efforts. Each of these initiatives were highly successful and are discussed in more detail below.

**Bureau of Resource Protection: Wetlands Enforcement Initiative.** Protection of wetlands is critical as wetlands serve as natural pollutant filters that protect drinking water and groundwater supplies, buffer against floods and storms, and provide valuable wildlife, fisheries and shellfish habitat.

New, cutting-edge technology gives the Bureau of Resource Protection (BRP) the ability to analyze aerial photographs taken years apart to identify wetlands that have been filled. This state-of-the-art approach allows BRP to identify filled wetland areas that are not visible from public rights of way. Using this approach, BRP discovered that more wetlands were being filled than previously thought. Initial investigation of a sample of towns revealed that a large portion of wetlands loss, more than 50%, was the result of illegal activity.

Using this new tool, BRP investigated a number of sites and launched a wetlands enforcement initiative in the autumn of 2003. The goal was threefold:

- Target illegal wetlands destruction,
- Take enforcement action to get the environmental damage repaired, and
- Deter future wetlands violations.

Within six months, DEP completed ten wetlands enforcement cases and initiated many others. These first ten cases resulted in orders to restore over 25 acres that had been illegally filled, and assessed more than \$683,000 in penalties. Additionally, DEP made two referrals to the Attorney General's Office for civil prosecution. This is more than all BRP penalties combined for any single previous year.

**Bureau of Waste Prevention: Asbestos Enforcement Sweep.** During FY04, DEP initiated higher-level enforcement in 77 cases and assessed \$2,177,425 in administrative penalties against contractors and property owners who illegally removed, handled and disposed of hazardous asbestos. The majority of the cases were generated as part of an asbestos enforcement sweep, which took place during February and March 2004. During the enforcement sweep, DEP conducted 174 inspections of public and private worksites, including unannounced visits on weekends and outside of normal work hours. The enforcement sweep consisted of three major segments.

During one segment of the enforcement sweep, the Department targeted contractors performing abatement work in school buildings. DEP performed 27 inspections at schools throughout the state, including several during the February school vacation week. These inspections resulted in a total of ten enforcement cases against contractors for illegal abatement work in schools.

The second segment of the asbestos enforcement sweep targeted licensed asbestos abatement contractors, especially those with a previous history of poor removal practices. During the sweep, DEP's inspections resulted in 24 higher-level enforcement actions. From these cases, DEP referred nine licensed asbestos contractors to the state Division of Occupational Safety for possible licensure action.

The third segment of the asbestos enforcement sweep focused on residential sites where, in many situations, homeowners may not have been aware that their contractor was improperly removing and disposing of friable asbestos, asbestos plumbing insulation and exterior asbestos shingles. During FY04, DEP inspections at residential sites resulted in a total of 33 higher-level enforcement cases.

**Bureau of Waste Site Cleanup: Urban Area Compliance Assurance.** BWSC is charged with addressing the cleanup of releases of oil and hazardous material to the environment. Since October of 1993, the identification and cleanup of contaminated sites has been conducted under the Massachusetts Contingency Plan (MCP), that relies in large measure on property owners or other responsible parties and their Licensed Site Professionals (LSPs) to conduct assessments and implement remediation plans in accordance with the standards and timetables established in the MCP.

During FY04, BWSC initiated the urban nonresponder enforcement initiative by issuing Notices of Response Action (NORAs) to 13 owners of contaminated sites across the state that were overdue for remediation plans and action. The NORAs stated that unless these Potentially Responsible Parties (PRPs) agreed to complete long overdue actions to cleanup these sites, DEP would step in and perform the cleanup work using public funds, and then seek to recover three times the costs incurred from the site owners. Further, DEP stated that it would secure these public debts by placing liens on the properties owned by the PRPs.

This initiative was successful at persuading the non-compliant PRPs to undertake cleanup actions and return to compliance. BWSC received commitments from every site owner to conduct response actions at their properties. These commitments were memorialized in Administrative Consent Orders with the PRPs at 7 sites, and unilateral orders for the remaining sites. BWSC will continue using the NORA/threat of lien approach where appropriate in FY05.

## **B. MEASURING COMPLIANCE.**

This section of the report reflects a shift in thinking within the Department, from simply tallying enforcement actions and penalties toward achieving and measuring compliance success and environmental results. Enforcement is a powerful tool in motivating compliance -- both for the individual violators and as a deterrent to others -- but it is just one of the ways compliance can be achieved. This section therefore reflects the focus on improving compliance by reporting new measures of compliance status.

## **BRP OUTCOME PERFORMANCE MEASURES**

BRP protects human health and the environment by being vigilant in assuring compliance with the laws and regulations designed to protect Massachusetts' wetlands, surface water, ground water and drinking water. While the ultimate measure of success is whether the waters of the state are clean and safe for drinking, swimming and fishing, compliance with permits and other rules designed to protect human health and the environment are critical to achieve these goals.

### **Drinking Water**

In FY04, the drinking water program continued to work toward the goal of ensuring that every public water supplier (PWS) consistently provides water that is safe to drink. During the year, there were no known waterborne disease outbreaks. Of the population served by *community* public water systems, such as municipal water supplies, 89% received water that met all health-based standards in FY04. Of all 1,707 public water systems, 93% fully met federal and state health-based drinking water standards.

In addition to outreach and hands-on technical assistance to help PWSs, enforcement plays an equally important role. Since 1998, the drinking water program has pursued a formal, consistent strategy for escalating enforcement through the Water Supply Comprehensive Compliance Strategy (CCS). Enforcement activity trends reflect the success in improving compliance: after peaking in SFY00, higher-level enforcement against PWSs declined rather dramatically as compliance improved.

In FY04, DEP investigated facilities located near land uses with high risk of groundwater contamination that might also be acting, although unregistered, as public water systems. New food service franchises and convenience stores relying on groundwater for drinking water were found at gas stations and garages, industrial complexes, and contaminated sites subject to cleanup under 21E. In DEP's Central Region, 8 HLE cases were taken at newly discovered PWSs with these high-risk characteristics, and water quality concerns of MTBE, volatile organic compounds and petroleum contamination. In addition to these contaminants, bacterial growth in these systems emerged as a serious issue as well, and will be a major focus for the drinking water program in FY05. Including these systems in the PWS regulatory program will require regular water quality monitoring, reassessment of inappropriate land uses nearby, evaluation of needed water treatment and other risk minimization strategies to protect public health.

**Water Management Act (WMA) Compliance Measures** As part of the effort to ensure healthy stream flow in the state's rivers, BRP enforces compliance with water withdrawal limits. Water withdrawals in excess of an annual average of 100,000 gallons per day (or 9 million gallons in any three-month period), are subject to the WMA. These include many public water suppliers, golf courses, cranberry growers, ski areas, fish hatcheries, agriculture users, industrial facilities, and sand/gravel operations.

Nearly 95% of the WMA registrants/permit holders complied with WMA annual reporting requirements for calendar year 2003. (Calendar year 2004 data is due this winter.) This means that of the 1,021 water users currently within the regulated universe, 54 (5.3%) failed to file the required annual report. Cranberry bogs account for nearly three quarters (38) of these, and approximately 10 of the 54 non-filers are located in basins that have been identified as under "High" or "Medium" stress. Enforcement actions against these violators are underway.

WMA compliance	Number that Comply	Known Universe	Compliance Rate
Reporting Requirements	967	1021	approximately 95%
Withdrawal Limits	926	967 (that reported)	approximately 96%

Chart 6

For calendar year 2003, 96% of the 967 that complied with reporting requirements also complied with their authorized **withdrawal volumes**. Slightly more than half of the 41 reported as exceeding the withdrawal volume were cranberry bogs. In addition to enforcement, the WMA program will take steps in the coming year to improve cranberry bog compliance.

**Surface Water Discharges Compliance Measures** Over the course of FY04, BRP inspected 78 major and 26 minor NPDES facilities, which are mostly wastewater treatment plants. Discharge Monitoring Reports (DMRs) are a key source of facility compliance data for inspection targeting. Most reported permit violations do not represent compliance problems that would result in significant environmental harm. These include one-time excursions from permit limits due to temporary plant upsets, or violations not directly related to effluent quality, such as failure to report specific data or failing to report on time. For FY04, 7% of NPDES facilities had violations that constituted significant noncompliance (SNC) with effluent limits as reported by EPA. Extremely stringent copper limits account for nearly three-quarters of the total number of SNC facilities. All of these facilities are already under administrative orders with EPA to assess sources of copper and optimize reduction.

Only four of the major publicly owned treatment works (POTWs) were in SNC for violations other than copper. These four account for most of the non-copper violations. Each of these facilities is under enforcement from EPA or DEP and is in the process of making multi-million dollar upgrades required under enforcement orders.

In addition, it should be noted that untreated combined sewer overflow (CSO) discharges cause violations of water quality standards, and are therefore also in violation of NPDES permits. All 24 of the state's CSO permittees are under enforcement orders to move forward with plans to eliminate CSOs and/or construct CSO abatement facilities.

## **BWSC OUTCOME PERFORMANCE MEASURES**

Massachusetts' cleanup regulations require comprehensive cleanup of all sites no later than six years after release notification. The regulations specify strict quantitative and qualitative response action performance standards with an emphasis on risk reduction. BWSC evaluates program performance in these areas by evaluating the program's effectiveness in achieving the following three goals: maximizing risk reduction, maintaining a high rate of cleanup, and ensuring the quality of cleanups.

Approximately three-quarters of the nearly 24,000 sites that entered the MCP system since 1993 were contaminated with oil products (heating oil, gasoline and diesel fuel) and approximately one-quarter involved hazardous materials alone or were mixed with oil products. During that time period, 77 percent of all sites have been closed out in compliance with the MCP.

### **Environmental Goal: Maximize risk reduction**

As a goal, BWSC set out to ensure that 75% of Immediate Response Actions (IRAs) are in compliance with submittal requirements on their one-year anniversary date. During FY04, 1336 IRA sites reached their one-year anniversary. Nearly 91% of IRA sites are in compliance with submittal requirements, leaving 124 IRA sites out of compliance. BWSC attributes the higher than expected rate of compliance to the fact that significant emphasis has been placed over the last year on promoting compliance with required risk reduction measures, increasing deadline enforcement particularly against nonresponders, and higher fees for sites that remain open after one year. Improvements to DEP's enforcement and compliance tracking system have also allowed DEP to improve its response rates for these violations. Of the 124 noncompliant sites, enforcement actions have been taken at 47 sites. Appropriate enforcement will be pursued against non-compliant parties for the remaining 77 sites within two months of their notification anniversary date.

### **Environmental Goal: Maintain a high rate of cleanup**

BWSC evaluates the percent of sites at which an IRA is required where responsible parties are in compliance with IRA submittal requirements one year after notification of the IRA condition. As a goal, BWSC set out to ensure that 75% of IRAs are in compliance with submittal requirements on their one-year anniversary date. During FY04, 1336 IRA sites reached their one-year anniversary. Nearly 91% of IRA sites are in compliance with submittal requirements, leaving 124 IRA sites out of compliance. BWSC attributes the higher than expected rate of compliance with submittal requirements for IRAs to the fact that significant emphasis has been placed over the last year on promoting compliance with required risk reduction measures and also enforcement against non-responders (two areas of increased resource allocation despite the overall program reduction in staff). Of the 124 noncompliant sites, enforcement actions have been taken at 47 sites. Appropriate enforcement will be pursued against non-compliant parties for the remaining 77 sites within two months of their notification anniversary date.

### **Environmental Goal: Ensure the quality of cleanups**

BWSC evaluates the percent of sites receiving a Level I Audit that require additional compliance and enforcement action by DEP. As a goal, BWSC set out to ensure that the number of sites receiving enforcement follow-up is at least equal to the number of sites recommended for such follow-up in the preceding year. [Baseline: 3-year average (FY01 – FY03) = 18.6% of audited sites (192.7 sites per year) require additional enforcement follow-up each year]. During FY04,



BWSC implemented several changes in the operations of the Audit program in order to maximize the effectiveness of the available staff conducting Audits and to put systems in place which allow auditors to reach audit endpoints and/or issue audit findings more efficiently. A key program change was to focus the Level I audit screening criteria so that only those sites that clearly display a potential risk of exposure and/or indicate significant MCP violations are targeted for a Level III audit (Comprehensive Audit) and enforcement follow-up. This change allows BWSC to identify sites for enforcement follow-up more precisely and effectively, thereby allowing BWSC to address these actions in a timely and efficient manner. For example, with the enhanced screening process in place in FY03, 192 sites were recommended (on average) for enforcement follow-up and 150 sites were addressed, leaving a backlog of 22%. With the refined screening process in place in FY04, 103 sites were recommended for enforcement follow-up and 95 sites were addressed, leaving only an 8% backlog. It is anticipated that this approach will allow BWSC to manage growth of the enforcement backlog while providing some additional time each fiscal year to address backlogged cases. BWSC will be redefining this goal for FY05 in light of audit program operation changes in FY04.

### **BWP OUTCOME PERFORMANCE MEASURES**

BWP initiated a new planning model for the program plan, including compliance and enforcement activity, called “Beyond ERP”, which is intended to build on the original, highly successful ERP. BWP also analyzed environmental benefits arising from its enforcement actions, the benefits of the ERP program, and initiated a “Beyond ERP” project in the Stage II program.

Because of the effort focused on developing the new planning model of Beyond ERP, BWP will be reporting two new compliance measures in FY05, and its new ERP measurements this year. The two programs selected for new compliance measures next year are:

- Air operating permit sources. BWP will evaluate compliance with emission limits for VOCs and nitrogen oxides because they are precursors to ozone, the one national ambient quality standard for which Massachusetts is regularly in non-attainment. Compliance will be measured through an evaluation of annual and semi annual compliance certifications submitted by these sources, and verified by inspections at a sample of facilities. On average, BWP inspects a third of these facilities every year.
- Solid Waste Transfer Stations. BWP has set a compliance goal of 90% for certain key regulatory requirements. These will be evaluated through a combination of inspections and annual self-certifications, newly required in FY05.

### **Environmental Results Program (ERP) - Printers.**

ERP in Massachusetts assures compliance with multimedia environmental requirements. The program uses strategic compliance assistance, mandatory facility self-certification, agency inspections and enforcement, and a performance-based measurement system. Measures of success were reviewed for compliance and enforcement effectiveness in ERP from the beginning of the program through 2004. BWP believes this review shows that the use of certification and measurement of compliance as a basis for enforcement provides a very efficient and effective means to obtain substantial compliance among small businesses.

The ERP compliance and enforcement program improved performance for large numbers of previously under regulated facilities in the dry cleaner, printer, and photoprocessor sectors. For facilities that failed to certify, BWP devised a standard NON, followed by a reporting penalty

assessment of \$500 for continued failure to certify. In FY04, BWP expanded this concept and issued standard settlement agreements (ACOPs) for the ERP program to resolve some of the outstanding failure to certify cases. BWP staff and members of the Alternative Dispute Resolution committee are attempting to settle the remaining printer cases prior to the end of the federal fiscal year. In FY04, BWP executed 208 standard ACOP settlement agreements in the dry cleaner and printer sectors, worth over \$54,000.

**ERP – Drycleaners.** DEP's recent field and enforcement experience with ERP Dry Cleaners shows better performance among the certifiers than the non-certifiers. Among the two types of facilities, those that certified three years in a row and those that failed to respond in at least one year, lower level enforcement (NONs) for first time record keeping violations occurs at about the same frequency. However, while 12% of those who failed to certify required higher-level enforcement, less than 2% of the certifiers required higher-level enforcement, a six fold performance difference. This indicates that greater adherence to the self-certification process did not appear to result in less first time paperwork violations, but it did correlate with reductions in serious offenses such as repeat violations, failure to install pollution control equipment, or acting out-of-status as a hazardous waste generator.

## **OTHER ENVIRONMENTAL BENEFITS ACHIEVED THROUGH ENFORCEMENT**

### **Pollution Prevention (P2) Activities**

Some enforcement actions conducted in FY04 required actual source reduction through the modernization of various manufacturing processes. For example, several facilities replaced toxic and volatile solvents by changing to processes using low volatile and less toxic materials. Fourteen enforcement actions this year accounted for the reduction of at least 50 tons per year of volatile organic compounds (VOCs), plus small amounts of particulate matter and carbon monoxide.

DEP performs multi-media inspections of industrial facilities to ensure pollution prevention through source reduction, rather than transfer to another environmental medium. As a result, many of the environmental requirements in DEP enforcement actions are multi-media in nature. For example, enforcement actions this fiscal year will improve operations in air, water, toxics reporting and waste management at 28 regulated facilities, reducing pollution by over 17 tons per year of VOCs, and saving various amounts of other hazardous air pollutants, carbon monoxide, particulate matter, and hydrogen sulfide. Additional savings will be realized in 6 future permitting actions that were required by enforcement orders.

### **Control Technologies**

Many DEP enforcement actions require the replacement of pollution control equipment or the physical modification of the facility to prevent discharges. Among 18 enforcement actions with such requirements, savings include 22 tons per year of volatile organic compounds, 35 tons per year of hazardous air pollutants and at least 5 tons per year of nitrogen oxides.